

A NEW SPECIES OF *COELAMBUS* FROM CALIFORNIA
(Coleoptera: Dytiscidæ)¹

BY HUGH B. LEECH

Vernon, B. C.

Cœlambus curvipes Leech, n. sp.

A medium sized, dull yellow species, with the elytra infuscate in the apical two-thirds. Front not margined, male protarsal claws unmodified, legs bicolored. Length 3.75—4.25 mm.; width 1.80—2.15 mm., the males larger than the females.

Head rufous, tinged with piceous near the eyes, and with a pale spot on the vertex. Antennæ yellowish, the outer segments infuscate. Pronotum slightly narrower than the base of the elytra; rufescent, yellowish laterally, the disc, base, and a spot on each side of the disc, piceous or dark rufo-piceous. Elytra pale testaceous in the basal third, and somewhat irregularly along the sides to the apex; disc diffusely infuscate.

Dorsal surface shining, not alutaceous. Head and pronotum fairly densely punctate, the punctures rather small and distinctly irregular as to size and position. Elytral punctation coarser, especially towards the apex, and more regular; distinct sutural and discal series of coarser punctures present, the subhumeral series hardly apparent. Under surface black; legs testaceous, the apical fourth of the front and middle femora rufo-piceous; epipleura pale, rufous apically. Metasternum and coxal plates coarsely punctate, the epipleural and abdominal segments more sparsely and less coarsely so.

Male characters: Protarsi rather narrowly dilated, broader than the mesotarsi, both a little broader than the equivalent in the female; claws simple. Front femur weakly arcuate, tumid medially, the tumid area with a few parallel transverse rugæ; in the apical third there is on the anterior face a somewhat transverse, almost semi-circular depression, the bottom of which makes a notch in the ventral edge of the femur, which is there margined with stiff, golden setæ giving it much the appearance of the antennal-cleaning organ found on the fore tibiæ of many Carabidæ; sides of the depression lightly reticulated. Posterior face of the femur with a longitudinal line of long silky pubescence near the upper margin, and a shorter one apically near the lower margin. Front tibia broad, the sides slightly sinuate; with a longitudinal line of very dense long silky pubescence on the middle of the posterior face. Middle femur flattened, the anterior face reticulate and with parallel strigæ; dorsal margin sinuate; lower (inner) margin

¹ Contribution from the Division of Forest Insects, Dominion Entomologist Branch, Vernon, B. C.

strongly arcuately lobed in the basal third, narrowed in apical third, and produced downward at the apex, with a brief longitudinal line of short silky pubescence at the apex of the lobe. Middle tibia very lightly reticulated, almost parallel-sided, slightly lobed internally near the base, with a longitudinal line of thin silky pubescence along both the upper and lower edges of the posterior face. Hind femur with elongate reticulations, of normal shape. In both *curvipes* and *pedalis* the apex of the middle lobe of the ædeagus is broadly rounded; in such other species as I have examined, the tip is always acuminate.

Female characters: Front femur only slightly tumid medially, no funnel-shaped depression in apical fourth, with only a trace of the longitudinal lines of silky pubescence on the posterior face. Front tibia without a line of silky pubescence on the posterior face. Middle femur variable: (a) upper margin distinctly sinuate, lower margin arcuately produced in basal third, but less strongly so than in the male; lower apical angle produced downward, but less than in the male; (b) upper margin slightly sinuate, lower weakly lobed in apical half, lower apical angle slightly produced downward; (c) femur of the usual type, sub-parallel sided, apex not produced downward. Middle tibia: (a) broader, very gradually narrowed from apex to near base, then sharply constricted; (b) broad, less gradually narrowed, the basal constriction hardly apparent; (c) of the usual type, triangular. Hind femur and tibia normal.

Holotype ♂, length 4.10 mm.; width 2.12 mm. Oakley, Contra Costa Co., Calif., September 5, 1936 (H. B. Leech); No. 4596, in the California Academy of Sciences, Entomology. Allotype: ♀, length 3.75 mm.; width 1.28 mm.; middle femora and tibiæ as in form (b) of above; same data as holotype, in C.A.S., Ent. (No. 4597). Paratypes: 5 ♂, 7 ♀; same data as the holotype. Paratypes will be distributed to the Canadian National Collection, Ottawa, Mr. R. Hopping and Dr. H. C. Fall; the remainder in my own collection.

The type locality is a small, shallow, muddy pool amongst *Typha*, on the north side of the railway embankment a few hundred yards from Oakley, Calif. This little pool is not saline, but is much fouled by cattle, and from an accumulation of old tin cans, etc.

Curvipes traces in Fall's key (1919, The North American Species of Cœlambus, published by John D. Sherman, Jr., Mount Vernon, N. Y.), to near *pedalis* Fall, which also occurs in Contra Costa County (Vine Hill), as well as south to San Diego County. Actually, however, it is closer to the recently described *thermarum*

Darlington (1928. New Coleoptera from Western Hot Springs. Psyche, 35:1) from hot springs in Nevada. Thanks to Dr. Fall's generosity, I have a male of *pedalis* from the type series, and I have studied specimens in the collections of the California Academy of Sciences; I have examined also a male paratype of *thermarum* in Dr. E. C. Van Dyke's collection at the Academy. The three species may be separated as follows:

1. Head without a median pale spot at base; robust species, more obtusely rounded in front. Front femur of male with a patch of dense, short pubescence apically; middle tibia strongly, broadly produced inwardly at apex.....*pedalis*
- ... Head with a median pale spot at base; more elongate species, less obtusely rounded in front. Front femur of male not pubescent apically; middle tibia not produced inwardly at apex2
2. Pronotum piceous, vaguely paler at the sides; elytra pale testaceous, with an irregular infusate cloud from behind the middle nearly to apex. Front femur of male with a broad transverse impression on the interior face a little before the apex; the lower margin of the impression forming a broad shallow emargination in the ventral edge of the femur; femur unicolorous*thermarum*
- ... Pronotum rufescent, yellowish laterally, the disc, base and a spot on each side of the disc, piceous; elytra pale testaceous, with an irregular infusate cloud from basal third nearly to apex. Front femur of male with a transverse impression, the lower margin of which forms a deep, semi-circular emargination in the ventral edge of the femur. Femur usually bicolored*curvipes*

In males of *thermarum* and *curvipes*, the profemoral impression is slightly oblique, the top being more apical; the lower end is set with short stiff cilia. In *pedalis* there is also an oblique profemoral impression but it is broad and shallow, minutely granulose, and runs in the opposite direction; the lower end is apical, but does not form an emargination in the ventral edge of the femur.

The progressive modifications of the middle femora and tibiae in the females of *curvipes* are most interesting; a larger series would probably show intermediates. In the specimens at hand it is noted that when the middle legs are most like those of the males, the apical rufo-piceous patch on the femur is darkest, while in those with unmodified legs it may be entirely absent.